WINGSPAN

VOLUME 8 NO. 2 SEPTEMBER 1999

MESSAGE FROM THE PRESIDENT

Dear Members,

I appreciate your responses to my message last March about RRF's role in conservation. All agreed that RRF should provide factual, unbiased information, although some felt that RRF should also be pro-active, but choose its issues carefully. On the conservation front, I recently sent a letter to the Minister of Natural Resources and Environment in Victoria, Australia expressing our concerns about proposed chemical control of galahs, corellas, and cockatoos (a matter brought to our attention by **Nick Mooney**, see this issue). We also acted on a Saker resolution developed by **Robert Kenward** and his ad hoc committee. A subcommittee (**Mike McGrady** and **John Smallwood**) of the Conservation Committee now handles resolutions. I thank **Dave Garcelon** for serving as former Resolutions chair and **Jim Bednarz** for his undying efforts as Conservation chair.

It has been an active year since the 1998 annual meeting. The Board voted to use the gift from Sally Spofford, in memory of husband Walter Spofford, to print proceedings of the upcoming Golden Eagle Symposium in La Paz. **Lloyd Kiff's** help is greatly appreciated here. This spring, RRF printed a new foundation brochure thanks to **Amy Lauderdale Palka** and **David Bird**, as well as **Dick Clark's** initial efforts. I signed an agreement with the National Wildlife Federation assigning copyright to the second edition of the *Raptor Management Techniques Manual* to RRF. **David Bird** and **Brian Millsap** will coordinate the second edition as an RRF publication. **Carl Marti** assumed the Annual Conferences Committee chair and will, among many things, work with **Nancy Lange**, **David Bird**, and me to finalize the long-awaited RRF Conferences Guidelines. **David Bird** graciously served as interim Annual Conferences chair, and **Nancy Lange** and **Woody Peterson** deserve thanks for drafting the revised Conferences Guidelines. **Mike McGrady** joined **Paul Napier** as RRF representatives on the Ornithological Council; they attended the December and April meetings (see *Ornithological Newsletter* for summaries of OC's activities). We donated past issues of *The Journal of Raptor Research* to Colorado State University Library to replace copies destroyed by a fire; thanks to **Karen Steenhof** who alerted us to the need and **Jim Fitzpatrick** who sent the issues to CSU. Several of our other recent accomplishments are reviewed in this issue of *Wingspan*.

We have an outstanding slate of upcoming RRF meetings. Local Organizing Committee chair **Petr Voříšek** and Scientific Program chair **Keith Bildstein** have organized a superb program for the 3rd Eurasian RRF Conference in the Czech Republic. An impressive RRF annual meeting in La Paz, Mexico is being arranged by Local Organizing Committee chair **Ricardo Rodríguez-Estrella** and Scientific Program chair **Jeff Smith**. RRF is also a sponsor of the Owls 2000 conference in Canberra, Australia and the Raptors 2000 conference in Eilat, Israel, the latter aptly organized by **Reuven Yosef**.

Hope to see you in the Czech Republic or La Paz this fall.

Mike

ARGENTINE AUTHORITIES BAN PESTICIDE RESPONSIBLE FOR SWAINSON'S HAWK MORTALITY

by Santiago Krapovickas

The Secretariat of Agriculture, Livestock, Fish and Food of Argentina has banned the importation, sale, or use of the organophosphate pesticide Monocrotophos. Resolution 182/99, published on June 24, 1999 in the Government Official Bulletin, established a nine-month period for the industry to sell out all their stocks. This formal decision by federal authorities closes a bitter chapter in the relationship between agriculture and wildlife in the country. Monocrotophos has caused the deaths of tens of thousands birds in Argentina during the past five years. Very well known were the Swainson's Hawks (*Buteo swainsoni*) kills, but doves, pigeons, tinamous, owls, and other insectivorous birds were also affected. The ban on Monocrotophos is the result of a complex process of institutional cooperation, data gathering, public information, and advocacy. People in the National Agriculture Technology Institute, the National Food Protection and Quality Service, the Secretariat of Natural Resources, and several provincial governments did hard work. The corporate sector was also present: Novartis withdrew Monocrotophos from the market and announced the global decision to stop Monocrotophos sales months before its national prohibition. Aves Argentinas/AOP and its former partner in the United States, the American Bird Conservancy, played a very active role in resolving this problem. Congratulatory notes are welcome, with copies to AVES ARGENTINAS/AOP. Please send letters to: Sr. Presidente Dr. Luis Barcos, Servicio Nacional de Sanidad y Calidad Agroalimentaria, Av. Paseo Colon 367, 1063 Buenos Aires, Argentina.

(*Editor's note:* Santiago Krapovickas is Conservation Director of AVES ARGENTINAS/AOP. Those who would like more information can contact Sr. Krapovickas at: AVES ARGENTINAS/Asociación Ornitológica del Plata; 25 de Mayo 749, segundo piso, of. 6; 1002 Buenos Aires; Argentina; phone/fax: 54-1-312-8958/-1015/-2284; e-mail: aves@mail.retina.ar or aop@aorpla.org.ar; web: http://members.tripod.com/HARPIA/aop.html)

Wingspan is distributed twice a year to all RRF members. It is also available to non-members for a subscription rate of $10 per year. *The Journal of Raptor Research* (ISSN 0892-1016) is published quarterly and available to individuals for $33 per year ($18 per year for students) and to libraries and institutions for $50 per year from: Ornithological Societies of North America, P.O. Box 1897, Lawrence, KS 66044 USA. Add $5 for destinations outside of the continental United States. Individual and student memberships renewed before November 15 are $30 and $15, respectively. Persons interested in predatory birds are invited to join The Raptor Research Foundation, Inc. Send requests for information concerning membership, subscriptions, special publications, or change of address to: Ornithological Societies of North America, P.O. Box 1897, Lawrence, KS 66044 USA.

UPCOMING VOTE: DRAFT SAKER RESOLUTION

by Jim Bednarz, Director At Large and Chair, Conservation Committee

Several RRF members have been working hard to develop a draft resolution on Sakers (*Falco cherrug*) that will be presented to the RRF membership for their approval at the annual meeting in La Paz this November. As *Wingspan* goes to press, the RRF Board is making final adjustments to this draft resolution before it is presented to the membership. This resolution recognizes that there has been a significant legal and illegal harvest of Saker falcons in several Central Asian countries with most of those falcons being transported to Middle Eastern countries. The resolution encourages all countries where these activities are occurring to implement effective controls on harvest and importation of falcons, and to ensure that future harvests are sustainable. The full text of the draft resolution will be posted on the RRF web page (http://catsis.weber.edu/rrf/), and a copy will be included in the registration packets at the La Paz meeting. **Please review this resolution and assist RRF with international conservation issues by participating in the resolution process**. The RRF Board wishes to thank Robert Kenward, Dave Ellis, Steve Knick, Doug Grier, Mike McGrady, and Jim Bednarz for their time and effort in researching and drafting this resolution.

UPDATE ON THE RRF NORTHERN GOSHAWK STATUS REVIEW COMMITTEE

by David E. Andersen

Under the auspices of the Conservation Committee of RRF, the Northern Goshawk Status Review Committee was formed in 1998. A draft charge for this committee was presented to the Board at the 1998 Annual Meeting in Ogden, Utah, and a revised draft of this charge was approved by the Board in early 1999 (a copy of the committee's charge appears at the end of this summary). In addition, the Board approved making inquiry to The Wildlife Society (TWS), to assess their interest in participating jointly in this review.

The committee is chaired by David E. Andersen, and currently includes the following members: Robert N. Rosenfield, Patricia L. Kennedy, Kim Titus, and Steve DeStefano. We anticipate adding at least one member to this committee, but are awaiting a response from TWS regarding their interest in participating before adding that person. TWS has agreed to discuss their potential participation at their meeting in September.

Once membership on the committee is finalized, we anticipate meeting with the U.S. Fish and Wildlife Service to have them describe the process and information used to reach their listing decision. We have also been contacted by one of the petitioners for listing (Southwest Center for Biological Diversity), who has asked that we hear their concerns. I anticipate that our committee will have considerable information and input to consider in fulfilling its charge (which follows):

Background: The U.S. Fish and Wildlife Service (FWS) recently [Federal Register 63(124):35183-35184 -- 29 June 1998] declined to list the Northern Goshawk (*Accipiter gentilis*) west of the 100th meridian in North America (excluding Canada and Alaska) under federal threatened and endangered species legislation. That decision was based largely on the following: 1) there is no evidence for range contraction, and most historic breeding areas are currently occupied by goshawks; 2) in those areas where intensive survey and monitoring efforts have been recently conducted, goshawks are generally found; 3) there is no evidence that goshawk habitat is currently limiting the population; 4) there is no evidence to support the claim that goshawks are dependent on large, unbroken tracts of "old-growth" and mature forest; and 5) goshawk habitat in the western U.S. occurs predominantly (>80%) on federal land, and habitat conditions relative to goshawks are no longer declining on federal land. The evidence used to reach this decision is detailed in a Status Review for

goshawks west of the 100th meridian.

Justification: As the professional organization with the primary goal of advancing the scientific understanding and the conservation of raptors, the Raptor Research Foundation, Inc. (RRF), has an interest in conservation and management decisions that directly or indirectly affect birds of prey. Of particular interest, is use of the best available scientific information in reaching conservation decisions. As a professional society whose members include most of the world's leading authorities on raptor ecology and conservation, RRF is in a position to provide an expert opinion regarding the soundness of the FWS "not warranted" decision regarding listing Northern Goshawks west of the 100th meridian.

Committee Charge: The charge of the RRF ad hoc Northern Goshawk Status Review Committee is to:

1) Review and evaluate the data and process used by the FWS to produce their recent listing decision, and to determine whether there is any evidence of a population trend in Northern Goshawks west of the 100th meridian. Specific issues relative to listing include evaluating:

- whether there is any evidence suggesting that goshawks nesting in the eastern and western U.S. represent distinctive biological populations (genetically unique)
- whether there is evidence addressing the hypothesis that goshawks are dependent on large, mostly-unbroken tracts of old growth and mature forest

2) Identify, in general, the type of information that is currently lacking and necessary to scientifically address the population status of Northern Goshawks west of the 100th meridian, suggest a general research approach to meet any identified information gaps, and provide an assessment of the process used by FWS to reach a listing decision.

The committee is further charged, via the Conservation Committee, to invite participation of The Wildlife Society in a joint review of data and the process used in the FWS listing decision. The committee will submit via the Conservation Committee a report summarizing its findings to the Board of Directors of RRF for their review and endorsement. Once endorsed by RRF, the report will be submitted to FWS for their review, and generally made available as RRF's position on the population status of Northern Goshawks in the coterminous U.S.

RRF FORMS BALD EAGLE REVIEW COMMITTEE

By Jim Bednarz, Director At Large and Chair, Conservation Committee

RRF has formed an ad hoc committee to evaluate the proposed regulation (Federal Register 64 [128]:36453-36464) to delist the Bald Eagle (*Haliaeetus leucocephalus*). The U.S. Fish and Wildlife Service has provided interested individuals and organizations only a very brief period to comment on the proposed regulation (comments on monitoring are due 7 September 1999, and comments on the proposed rule are due 5 October 1999). Thus, the Eagle Committee has been working furiously reviewing data and other materials to evaluate the scientific basis for this proposal. RRF has requested public hearings in Portland, Oregon and Minneapolis, Minnesota, and will request an additional hearing at a third location somewhere in the eastern United States. If you are interested in this issue, consider attending one of the public hearings, if at all possible, and provide your comments to the RRF Eagle Committee and the U.S. Fish and Wildlife Service. Eagle Committee members include: Bob Anthony, Jim Bednarz (Chair), Pete Nye, Karen Steenhof, and Brian Walton.

RRF COMMENTS ON PROPOSAL TO POISON PARROTS IN VICTORIA, AUSTRALIA

9 April 1999

The Honourable Marie Tehan
Minister of Natural Resources and Environment
P.O. Box 500
East Melbourne
Victoria 3002
Australia

Dear Madame Tehan:

I am writing on behalf of the Raptor Research Foundation, Inc., an organization representing approximately 1,200 professional raptor biologists and scientists throughout the world, including Australia. The Raptor Research Foundation, Inc. membership includes scientists knowledgeable in raptor ecology and toxicologists expert in the effects of organophosphate compounds on these birds.

We understand from several of our Australian members and scientific colleagues that your Department is about to issue permits to farmers in Victoria to allow a massive eradication program of galahs, corellas, and cockatoos with a variety of poisons, including organophosphate compounds. We have grave concerns that this chemical control program could have substantial impacts on nontarget species of raptors, as well as other predators and scavengers. Many birds of prey will be attracted to contaminated dying and dead birds and will succumb by secondary poisoning. The unfortunate secondary poisoning of nontarget raptors and scavengers has been well documented throughout the world. Deaths of numerous Bald Eagles in British Columbia, hundreds of raptors in Senegal, and thousands of Swainson's Hawks in Argentina are some examples. Species of raptors likely to be adversely impacted by the proposed program in Victoria include Peregrine Falcons, Black Falcons, Grey Falcons, Brown Falcons, Whistling Kites, Marsh Harriers, Spotted Harriers, Wedge-tailed Eagles, Little Eagles, Brown Goshawks, and probably others. The impact of this eradication program on Victoria's wildlife and ecological systems could be catastrophic.

We sympathize with Victoria's farmers over the destruction of their crops and potential livelihood but do not believe that the proposal to use unselective poisoning is in the long-term interests of farmers or your ministry. An international controversy may irrupt if the media publicizes the deaths of raptors and other nontarget wildlife resulting from organophosphate poisoning. This will reduce constructive efforts to resolve the numerous problems facing farmers. Human resources will be expended on conflict rather than on finding sustainable solutions.

We urge suspension of this proposed program of introducing highly toxic chemicals into Australia's environment. We recommend that alternative measures of selective control and management techniques of the target birds be fully considered and scientifically evaluated before authorizing a potentially environmentally-damaging release of hazardous chemicals. If a chemical control program is still considered a possible option after other alternatives are fully evaluated, we urge that initial control be conducted in a very limited and experimental fashion. Such a pilot program should be rigorously monitored for its effectiveness and impacts on nontarget organisms and ecological systems.

On behalf of the Raptor Research Foundation, Inc., I urge you to reappraise this proposal to implement a nonselective poisoning program in the State of Victoria. If the program proceeds, I request that you send me details of the permitting system, a list of the chemicals that will be employed, and specific details of any

monitoring of the effects of this program on nontarget species and on the ecosystem. If the Raptor Research Foundation, Inc. can assist you by providing expert review of proposed control programs (chemical or otherwise) for their potential impacts on raptors, please do not hesitate to contact me.

Sincerely,

Michael N. Kochert
President

OWLS 2000
The Biology, Conservation And Cultural Significance of Owls

January 19-23, Canberra, Australia

The presentations, activities, forums and displays planned for Owls 2000 will bring together a diverse range of interests to highlight the environmental and cultural importance of the owls of the world. Participants will learn from eminent Australian and international speakers; participate in workshops covering a range of owl conservation issues; help increase awareness and funding for important owl conservation projects; enjoy the comfortable surrounds of one of Australia's most important educational institutions; experience the grandeur of Australia's national capital through a range of social functions; become part of an international network of amateur and professional people conserving the world's owl populations; and have opportunities to observe Australia's native wildlife and natural wonders through pre- and post-conference tours. For further information, contact Conference Solutions, P.O. Box 238, Deakin West ACT 2600 Australia, phone: 61-2-6285-3000, fax: 61-2-6285-3001, e-mail: office@con-sol.com, web: http://www.tasweb.com.au/owls2000/index.htm. Owls 2000 is a cooperative effort with the support of Australasian Raptor Association, Bird Life International, Applied Ecology Research Group, Raptor Research Foundation, Northwest Habitat Institute, Canberra Ornithologist Group, The Johnstone Centre/Charles Sturt University, and Birds Australia.

$$$$ FOR RRF:
THE SECOND PRINTING OF *SUGGESTED PRACTICES*

by Bob Lehman, North American Director

As one of its authors, I am pleased to announce that the third (1996) edition of *Suggested Practices for Raptor Protection on Power Lines*, the industry standard for raptor-safe power line construction since 1975, has sold out, necessitating a second printing. This is a win-win development for RRF, the book's designated distributor. Under the terms of a renewed agreement with the book's publishers--the Edison Electric Institute and Avian Power Line Interaction Committee--RRF will continue to market the book and will keep all proceeds above and beyond printing costs. RRF will reimburse the publishers for the cost of printing, but will pay only for books actually sold. In other words, RRF cannot lose money and stands to earn significant revenues. The first printing netted RRF in the neighborhood of $15,000. We are indebted to the publishers for what in effect is the donation of their rightful portion of the proceeds to RRF. The book can be obtained from Jim Fitzpatrick, RRF Treasurer, Carpenter Nature Center, 12805 St. Croix Trail S, Hastings, MN 55033, phone: 651-437-4359, e-mail: jim@cnestcroix.com. The cost is $30 plus $5 for shipping, and for an additional $5 you will also receive the 1981 edition. Interest in the book remains strong, so make sure your local utility company and wildlife bureaus have copies of both editions!

AN ENDOWMENT FUND FOR RRF

by Jim Fitzpatrick, Treasurer

Over the past several years, the question of an RRF endowment fund has bounced around the halls and corners of Board meetings and been batted about through the e-mail system. At its 1998 annual meeting in Ogden, RRF created a Development Committee to explore the foundation's future. The Development Committee is comprised of Past President David Bird (chair), Peter Bloom, Past President Mike Collopy, Past President Gary Duke, Treasurer Jim Fitzpatrick, Ed Henckel, Director At Large Lloyd Kiff, President Mike Kochert, Past President Jeff Lincer, North American Director Petra Bohall Wood, and Lenny Young. One of the committee's responsibilities is to position RRF's finances to meet the foundation's future needs. Pursuant to this responsibility, the following actions have taken place during the past year.

1. All previously held "encumbered funds" in memory of various RRF members are now pooled into one co-mingled fund and invested via an investment analyst in a wide spectrum of mutual funds.

2. This co-mingled fund is referred to as The RRF Memorial Endowment Fund (MEF).

3. The Development Committee proposes that RRF use (i.e., withdraw) no more than 5% of MEF assets in any given year for the purpose of making awards and grants, which RRF is committed to continue, thereby enabling growth of the MEF.

4. An additional $25,000 has been added to the MEF, which now totals almost $110,000. In the future, additional monies may be added to the fund at the discretion of the RRF Board.

5. Guidelines for the investment analyst emphasize minimal risk, a broad spectrum of investment instruments, preservation of capital, and growth.

6. Officers, Directors, and/or designated Development Committee members will meet with the investment analyst at least once a year to discuss the investment strategy and performance.

7. RRF invites donations and gifts in memory of the person of the donor's choice. These donations are tax-deductible and will be placed in the MEF. However, at the present time no new awards or grants are being considered.

8. Fund-raising projects, appeals, and events designed to increase the amount of money in the MEF will be initiated from time to time to make the fund as large as possible. The Development Committee's overall goal for the MEF is to secure the financial future of RRF as well as benefit the raptors of the world.

(*Editor's note:* The Development Committee's responsibilities and progress will be reviewed by the RRF Board at the 1999 annual meeting in La Paz. A formal charter for the Development Committee, including a Financial Subcommittee, will be finalized by the Board and published in the March 2000 *Wingspan*.)

MARC BECHARD STAYS ON AS EDITOR OF *THE JOURNAL OF RAPTOR RESEARCH*

by Mike Kochert, President

Marc J. Bechard, current editor-in-chief of *The Journal of Raptor Research*, has decided to stay on until 2000. However, the search committee (Keith Bildstein [chair], Marc Bechard, Jeff Marks) is still searching for a capable successor. Editing *The Journal of Raptor Research* is the most challenging and rewarding position available in RRF. While working harder and longer for RRF than any other single member, the editor also reaps the benefits of working closely with the Foundation's most active scientists; shepherding worthy manuscripts through the publication process; and developing his or her own writing, editing, and communications skills. If you are ready for a very rewarding challenge, or if you wish to nominate someone who is, please contact Keith Bildstein by mail (Hawk Mountain Sanctuary, 1700 Hawk Mountain Road, Kempton, PA 19529-9449 USA), phone (1-610-756-6961), or e-mail (bildstein@hawkmountain.org).

INTRODUCING THE RICHARD R. OLENDORFF FOUNDATION

by Bob Lehman, North American Director

In February 1994, the Richard R. Olendorff Memorial Fund was established in Boise, Idaho to further the legacy of one of RRF's most influential and beloved members, Butch Olendorff. The Fund was established to support the Richard R. Olendorff Memorial Library at the Raptor Research Center, Boise State University, and other worthy programs. Since then, the Richard R. Olendorff Scholarship Fund also has been established at BSU. Butch's memorial fund, however, was never given legal standing to engage in the activities for which it was intended. This problem is now being alleviated. On 10 June 1999, the Richard R. Olendorff Foundation, Inc., was instituted under the Laws of Idaho as a nonprofit corporation "to support select organizations, scholarship programs, persons, and activities focusing on research and conservation of raptors." A tax exemption under Section 501(c)(3) of the Internal Revenue Code is pending. Soon, we will have the means to make a difference for raptors--in Butch's name. For more information, contact the Richard R. Olendorff Foundation, 1205 Roosevelt Street N, Boise, ID 83706, or Bob Lehman, phone: 208-426-5205, e-mail: blehman@eagle.idbsu.edu.

RRF SIGNS CONTRACT WITH ABSEARCH, INC.

by Mike Kochert, President

In Ogden, the RRF Board voted to contract with ABSEARCH, Inc. to add abstracts and citations from *The Journal of Raptor Research* to ABSEARCH's OSNA database. ABSEARCH, Inc. produces natural resource databases from abstracts and citations in professional journals; the OSNA database currently contains abstracts and citations from the major North American ornithological journals. The ABSEARCH databases allow individuals to search for keywords, authors, dates, etc. from their personal computers. Databases are updated annually. Under this contract, RRF will annually receive a complementary copy of the OSNA database and a royalty payment. RRF's royalty represents part of an annual payment divided among the OSNA societies based on the percentage of total records that each society's journal provides. Members can learn more about ABSEARCH, Inc. from the web: http://www.absearch.com.

ELECTRONIC *WINGSPAN* ON HOLD

Due to very low interest, plans to offer RRF members the option of receiving *Wingspan* by e-mail, as a Portable Document Format (PDF) file, are on indefinite hold. Only ten of RRF's 1300+ members (< 1%) responded to the announcement in the March issue. The e-mail option may be reactivated in the future, if there is sufficient interest. The *Wingspan* editor will continue to build a list of RRF members who would like to receive *Wingspan* by e-mail; if you are interested, please contact Leonard Young at wingspan@msn.com.

HAWK MOUNTAIN SANCTUARY
MAURICE AND IRMA BROUN STUDENT TRAVEL AWARDS

for the 25th Anniversary Meeting of the
HAWK MIGRATION ASSOCIATION OF NORTH AMERICA
Split Rock Resort, Pocono Mountains, Pennsylvania -- June 8-11, 2000

Hawk Mountain Sanctuary announces the availability of several Maurice and Irma Broun Student Travel Awards for students planning to give oral or poster presentations at the 25th Anniversary Meeting of the Hawk Migration Association of North America on 8-11 June 2000 in Split Rock Resort, Pennsylvania. Split Rock Resort is in the Pocono Mountains of eastern Pennsylvania about one and one-half hours from Hawk Mountain Sanctuary.

Applicants must be students planning to present a paper at the meeting. The paper can have more than one author, but the first author must be the awardee and presenter. Applicants should send the following: (1) expanded abstract of the paper (maximum 2 pages, double-spaced), (2) curriculum vitae, (3) estimated travel budget, and (4) two letters of recommendation from academic supporters of the work (to be mailed separately). Applicants must apply for a position on the meeting's scientific program separately. Funds will be made available to awardees before the meeting. Awardees will be announced at the meeting's banquet.

Applications are due no later than 1 March 2000. Questions regarding travel awards should be sent to Keith L. Bildstein, Director of Research and Education, Hawk Mountain Sanctuary, Kempton, PA 19529 USA, e-mail: bildstein@hawkmountain.org. Questions regarding the meeting itself should be directed to Laurie J. Goodrich, Senior Naturalist, at the same address (e-mail: goodrich@hawkmountain.org).

EQUIPMENT GRANTS AVAILABLE

Christensen Designs offers an equipment grant program for graduate students. Three types of grants are available: 1) Equipment Grants: students receive Christensen Designs' rental equipment free-of-charge for a limited period; 2) Equipment Grant Discounts: equipment may be sold to graduate students or universities at discounted rates if equipment is needed for a longer period; and 3) Cash Grants: small cash grants may be issued to graduate students. Christensen Designs specializes in remote video and surveillance systems for wildlife and security applications. Systems include video burrow probes, underwater and elevated video cameras, and time-lapse surveillance devices. Accessories include infrared spotlights, VCR's, infrared triggers, solar cells, and battery savers. To inquire about a grant, contact: Christensen Designs, 349 Scenic Place, Manteca, CA 95337, phone: 209-239-8090, fax: 209-239-5414, e-mail: Ann@PeeperPeople.com.

ANNOUNCEMENTS

UPCOMING MEETINGS

1999

September 21-26
3rd EURASIAN CONFERENCE of the RAPTOR RESEARCH FOUNDATION
Třeboň, Czech Republic
Contact: Petr Voříšek, Czech Society for Ornithology, Hornoměcholupská 34, CZ-102 00 Prague 10, Czech Republic, phone/fax: 420-2-7866700, e-mail: cso.vorisek@bbs.infima.cz

November 3-7
RAPTOR RESEARCH FOUNDATION
La Paz, Baja California Sur, México
Contact: Ricardo Rodríguez-Estrella, Centro de Investigaciones Biológicas del Noroeste, km 1 carr. San Juan de la Costa, La Paz 23000 Baja California Sur, México, phone: 112-536-33, fax: 112-553-43, e-mail: estrella@cibnor.mx

2000

January 19-23
OWLS 2000
Canberra, Australia
Contact: Conference Solutions, P.O. Box 238, Deakin West ACT 2600, Australia, phone: 61-2-6285-3000, fax: 61-2-6285-3001, e-mail: office@con-sol.com, web: http://www.tasweb.com.au/owls2000/index.htm

April 1-8
RAPTORS 2000
Eilat, Israel
Contact: Reuven Yosef, Raptors 2000, IBCE, P.O. Box 774, Eilat 88106, Israel, phone: 972-7-6335339 or -6374276, fax: 972-7-6335319, e-mail: ryosef@aquanet.co.il or raptors@ortra.co.il, web: www.ortra.com/raptors2000

June 8-11
HAWK MIGRATION ASSOCIATION OF NORTH AMERICA (25th Anniversary Meeting)
Split Rock Resort, Pennsylvania
Contact: Laurie Goodrich, Hawk Mountain Sanctuary, 1700 Hawk Mountain Road, Kempton, PA 19529, phone: 610-756-6961, fax: 610-756-4468, e-mail: goodrich@hawkmountain.org

POSITIONS AVAILABLE

VULTURE VOLUNTEERS! The National Parks and Nature Reserve Authority of Israel is running a nesting surveillance project on the Griffon Vulture (*Gyps fulvus*) in Gamla Nature Reserve (northern Israel - Golan Heights). The study aims to uncover reasons for the decline of this, the country's largest vulture population. The nests occur in crevices along the walls of a deep canyon in the beautiful Gamla Nature Reserve, which is home to the largest colony of raptors in Israel, not only by numbers of individuals but also the number of species that breed there, such as the Bonelli Eagle (*Hieraaetus fasciatus*), Egyptian Vulture (*Neophron percnopterus*), Short-toed Eagle (*Circaetus gallicus*), Long-legged Buzzard (*Buteo rufinus*), Eagle Owl (*Bubo bubo*), and more. Nesting pairs of Griffon Vultures will be observed and tracked during their nesting and incubation periods. Volunteers are required for monitoring and recording data during the nesting season and will participate in radio-telemetry tracking. The project will run from December 1999 to September 2000. Accommodations and basic subsistence will be provided. A commitment of at least four weeks is preferable. For more details, contact: **Michal Ferro, Gamla Nature Reserve, P.O.B. -70- Katzrin 12-900, Golan Heights, Israel, phone: 972-6-6963721 or 972-6-6963879, fax: 972-6-6961166, e-mail: ferro@internet-zahav.net.**

NEWS OF MEMBERS

RRF Secretary, **Patricia A. Hall** has a new e-mail address: pah@spruce.for.nau.edu.

REQUESTS FOR ASSISTANCE

COLOR - BANDED, RADIO - TAGGED PRAIRIE FALCONS Prairie Falcons from the Snake River Birds of Prey National Conservation Area have been color banded and instrumented with radio transmitters. Females were fitted with PTTs, and males were fitted with conventional VHF transmitters with frequencies ranging from 173.1 to 173.8 MHz. If you spot any Prairie Falcons wearing colored leg bands or antennas, please contact: **Karen Steenhof, USGS/BRD Forest & Rangeland Ecosystem Science Center, Snake River Field Station, 970 Lusk Street, Boise, ID 83706, phone: 208-426-5206, fax: 208-426-5210, e-mail: ksteenho@eagle.idbsu.edu.**

FOR SALE

RRF ITEMS Several items are available. Logo pins ($5); decals ($3); T-shirts from the 1995 (Duluth) and 1997 (Savannah--Swallow-tailed Kite on back) annual meetings ($5); coffee mugs from the 1995 annual meeting ($5); and abstract packets from all conferences except the 1996 annual meeting ($10 each). To purchase, contact: **Jim Fitzpatrick, 12805 St. Croix Trail S, Hastings, MN 55033, phone: 612-437-4359, fax: 612-438-2908, e-mail: jim@cncstcroix.com.** Payment may be via check or credit card; prices include shipping. For T-shirts, be sure to specify size (S, M, L, XL).

RECENT THESES ON RAPTORS

Giese, A. R. 1999. HABITAT SELECTION BY NORTHERN PYGMY-OWLS ON THE OLYMPIC PENINSULA, WA. M.S. Thesis, Oregon State Univ., Corvallis. 34pp.

Landscape level habitat alterations can have different effects on different species. Species that are more highly specialized for some important aspect of their natural history are expected to be more sensitive to habitat alteration than are those that are generalists. The Northern Pygmy-Owl (*Glaucidium gnoma*) has been suggested as a research and conservation priority due to the presumed negative effects of recent habitat alterations such as forest fragmentation and partial forest clearing. However, Pygmy-Owls are considered to be habitat and food generalists and may have an affinity for forest openings and edges. We tracked nine radio-marked male Northern Pygmy-Owls during the breeding seasons of 1996 and 1997 on the Olympic Peninsula, WA to examine three aspects of their natural history: cover type selection for foraging, nest location with respect to edges and dietary composition. Predictions of the generalist model were that use of resources would reflect availability. Cover types were divided into seven categories generally reflective of seral stage development. Individual owls were located an average of 3.7 times per week (45 times overall) and cover types used for foraging were compared to those available within home ranges. Pygmy-Owls used all of the available cover types for foraging but preferred structurally complex and mature cover types over structurally simple and young cover types. There was no evidence of preferential use of edges for foraging, but there was suggestive evidence that nests tended to be near edges. The diet was dominated by birds and mammals. Estimates of dietary composition varied depending on the method used. Pygmy-Owls appear to forage on those prey species that are most abundant or most easily captured. Our results suggest that Northern Pygmy-owls may be relatively insensitive to habitat alterations affecting prey species assemblages and relatively more sensitive to habitat alterations affecting structural characteristics.

Jenkins, A. R. 1998. BEHAVIOURAL ECOLOGY OF PEREGRINE AND LANNER FALCONS IN SOUTH AFRICA. Ph.D. Diss., Univ. Cape Town, Rondebosch, South Africa. 126+xii pp.

The Peregrine Falcon *Falco peregrinus* is a specialized predator of birds. It occurs almost worldwide but is generally uncommon. In many areas, it is sympatric with one of a complex of similar, less specialized, congeneric species (subgenus *Hierofalco*, the desert falcons). Peregrine density and productivity tend to decrease with latitude, while desert falcons may be most successful in the tropics. This study compares the

biology of Peregrines and sympatric Lanner Falcons *F. biarmicus* in South Africa, and examines the relative influence of resource limitation and interspecific competition with congeners on the natural regulation of Peregrine populations in tropical environments. In a quantitative analysis of distribution, Lanners were more widely distributed than Peregrines in South Africa, and generally outnumbered them by at least 10:1. Peregrines were largely restricted to high cliff areas, and were most frequent in the Fynbos biome in the temperate southwest. Lanners were less constrained by topography; breeding birds favoured the eastern grasslands, but numbers moved into the flat, arid Karoo and Kalahari in the non-breeding season. Elevation, nest ledge size, cliff size and the structure of scree slope vegetation were the main variables distinguishing nesting habitats typical of each species, and of Peregrine populations in different parts of the country. Peregrines used larger nest ledges on higher cliffs than Lanners, and temperate Peregrines used smaller ledges on lower cliffs than Peregrines in the subtropics. Morphometric differences between Peregrines and Lanners (Peregrines have higher wing loading and larger feet) predict differences in flight performance, energetics and food handling abilities. These were largely confirmed in the field: Peregrines flew faster, flapped more, used thermals less and made more strikes from perches at aerial prey than Lanners using the same habitat. On average, South African Peregrines spent 30-50% of the day in the vicinity of the nest cliff, and made about 0.5 strikes per hour in the immediate area. Most strikes were made from perches high on the cliff, and pairs occupying higher cliffs were more successful hunters. The height difference between perched Peregrine and prospective prey at the start of a hunt was positively correlated with strike success. Aspects of the diet and breeding biology of small, sympatric populations of Peregrines and Lanners were compared in a tropical area (Soutpansberg), and tropical Peregrines were compared with subtropical (Orange River) and south temperate (Cape Peninsula) populations. Both species preyed mostly on birds. Columbids and other aerial or 'commuter' species comprised the bulk of Peregrine prey throughout. Cape Peninsula Peregrines had the least diverse diet, and took more juvenile birds than Peregrines in the other two areas. Soutpansberg Lanners took mainly open-country, terrestrial or cursorial species, including a high proportion of young domestic fowl. Sympatric Peregrines took mainly woodland or cliff-dwelling species. Diet overlap was about 35%, and close neighbouring pairs of congeners did not affect food-niche width of either species. Parental care at nests was compared using time-lapse photography and direct observation. Accounting for the effects of brood size and age, the quality of parental care provided by Cape Peninsula Peregrines and Soutpansberg Lanners (in terms of provisioning rates and adult attendance at the nest) was superior to that of Soutpansberg Peregrines. Also, female participation in the foraging effort was greatest by Soutpansberg Peregrines, which may have compromised nest security. Breeding success of Peregrines was lowest on the Cape Peninsula and highest on the Orange River, although the Cape Peninsula population achieved the highest productivity in any one year. Fledging rates of Soutpansberg Peregrines and Lanners were not significantly different, although Lanner productivity was consistently higher. Close neighbouring pairs of congeners did not affect the breeding performance of either species. Egg and hatchling mortality increased with spring rainfall on the Cape Peninsula. Generally, breeding success of South African Peregrines reflected fluctuations in the physical environment which themselves influenced prey availability. Evidence from this study suggests that Peregrine populations in the tropics are limited by resource deficiency and not by proximate competition with sympatric congeners. Morphological and behavioural specialization may restrict Peregrines to optimal foraging habitats (high cliffs) in areas where prey are not concentrated or particularly vulnerable to predation. Prey availability, and hence habitat specificity, density and productivity, may be profoundly influenced by latitudinal trends in the length and synchrony of avian breeding seasons. Populations of other widespread but specialized raptors may be similarly controlled. Food limitation in the tropics has led to specialization and rarity in Peregrines, and generalization and relative abundance in desert falcons.

(*Editor's note:* Copies of Dr. Jenkins' dissertation are available in hard- ($US 30) or soft-cover ($US 20) from the author: Andrew R. Jenkins, Fitzpatrick Institute, University of Cape Town, Rondebosch 7701, South Africa, phone: 21-650-3299, fax: 21-650-3295, e-mail: ajenkins@botzoo.uct.ac.za or jenkins@iafrica.com; price includes postage costs.)

McConnell, H. I. 1998. ACOUSTICAL AND FUNCTIONAL ANALYSIS OF CAPTIVE HARRIS' HAWK (*PARABUTEO UNICINCTUS*) CALLS. M.S. Thesis, Western Illinois Univ., Macomb. 74 pp.

The Harris' Hawk is a social bird of prey species native to the southwestern United States and South America. Because of extensive social interactions among individuals of this species, communication should play an important role in the behavioral system of the Harris' Hawk. Calls of this hawk have been described qualitatively and within a functional context when known, but no detailed spectrogram analysis has ever been performed to assess the acoustic characteristics of Harris' Hawk calls.

The purpose of this study was to describe the sound repertoire of captive Harris' Hawks within a functional context. Recordings of calls from captive Harris' Hawks were obtained from October 1996 until April 1997 at the World Bird Sanctuary in St. Louis, Missouri. Both adult and immature hawks were studied, with immatures being less than one year old. Sexes were known for adult birds, but not for immatures. Recordings were made using a Sony TC-D5M stereo cassette recorder with headphones, an Electro-Voice RE-55 dynamic omnidirectional microphone, and Type I Maxell 90-minute audio cassette tapes. A 1 kHz calibration tone was placed at the beginning of each tape, and a 1 kHz tuning fork was struck periodically between recordings to allow for testing of proper tape speed during analysis. To assess the context and the possible function of calls, the observer narrated the behavior and posture of the birds. Audible characteristics of calls were described phonetically, and their spectrographic structure was assessed visually. Sonograms were analyzed on the computer using the software programs Real Time Spectrogram (RTS) version 2.0 and SIGNAL version 3.0. Quantitative analysis of calls was performed using RTS from sonograms by measuring several frequency and time variables for the fundamental frequency of sounds. The fundamental was defined as the frequency band exhibiting the greatest energy, or amplitude, expressed as the darkest frequency band within the call in the sonogram. In the majority of the calls, the darkest frequency band was difficult to obtain visually from the sonogram, so a power spectrum analysis was performed for these calls using SIGNAL. Here the highest amplitude peak denoted the fundamental frequency at a given time. Frequency measurements were: beginning, ending, maximum and minimum frequency. Time measurements were: call duration, call interval, component duration, component interval, note duration, and note interval. All measurements were performed on the upper margin of the frequency band. Recordings were obtained from 15 Harris' Hawks: 5 adult males, 6 adult females, and 4 immatures. Eleven call types were identified and analyzed statistically. Five were issued by adult hawks (call types I - V), and 5 were given by immatures (call types VII - XI). Call type VI was issued by both adult and immature hawks. In some cases gradations of call types were noted, and combinations of different call types occurred. Combination calls were described visually only because they consisted of call types that had been statistically analyzed separately. Quantitative analysis was performed on a total of 401 calls.

Adults:

Call type I: Alarm: A loud, harsh sound, resembling *arrr*, gradually decreasing in frequency and amplitude toward the end. Consisted of several high amplitude frequency bands amidst extensive broad band noise. The fundamental maximum frequency averaged 1.9 kHz, and lasted approximately 1.2 s. Birds emitting this call exhibited agitation or aggressiveness.

Call type II: Greeting: A short, coarse, low amplitude sound low in frequency resembling a hoarse *hmm*, reaching its maximum frequency in the middle of the call and was given singly or in irregular intervals. Consisted of barely discernible low frequency bands containing much noise with the fundamental maximum averaging 0.5 kHz, lasting approximately 0.5 s. Birds were calm and exhibited upright body postures.

Call type III: Food beg: A hoarse call of moderate amplitude that sometimes ascended toward the end, sounding like *aack*. Given singly, in pairs or in series of 3 to 5 repetitions, at about 1 s intervals. Noisy multi-banded sonogram structure with the fundamental maximum averaging 1.7 kHz, lasting about 0.5 s. Birds exhibited a calm disposition.

Call type IV: Agitation of male after rejection of food offering by female: A succession of calls given in series of up to 50 repetitions resembling call type III in sound quality but higher in frequency with the fundamental maximum averaging 2.0 kHz. Call repetitions started out slowly and sped up gradually accompanied by an increase in frequency and amplitude. Can be described as a fast *cak-cak-cak-cak*. Call

was given when observer was entering or leaving building.

Call type V: Pre-copulation (male): Similar to call type II but with a trembling quality and a rise in frequency with the fundamental maximum averaging 0.7 kHz. Call was given in long series with regular intervals lasting approximately 0.4 s. The bird held its body in a horizontal posture with its feathers roused and undertail coverts flared.

Adults and immatures:

Call type VI: Excitement during food beg; agitation and aggression: Depending on variation a brief, sharp, low amplitude but high frequency whistling sound resembling *sit*, or softer and more drawn out resembling *seet*. Spectrographic inspection confirmed 7 variations within this call type, all consisting of frequency-modulated sweeps averaging a fundamental maximum of 6 kHz, and lasting approximately 0.1 s. Bird behavior was extremely varied. Some elicited this call while attempting to bite the microphone above their heads in a posture reminiscent of a chick fed by a parent, others during periods of aggressiveness or agitation.

Immatures:

Call type VII: Alarm: A drawn out high frequency, high amplitude shriek resembling *eeerk*. The sonogram revealed a highly distinguishable fundamental frequency band with a maximum of approximately 3.6 kHz, lasting about 3 s. The bird exhibited agitation and a horizontal body posture.

Call type VIII: Food beg: A brief high frequency, descending sound resembling *chip* issued at a moderate amplitude with the fundamental maximum averaging 1.7 kHz, lasting approximately 0.04 s. The sonogram illustrated a tonal appearance and individual frequency-modulated bands. Call was given by bird attempting to bite microphone.

Call type IX: Agitation during food beg: Obtained during same recording session as call type VIII for same bird but the call appeared to be issued during a state of agitation while the bird was unsuccessfully trying to bite the microphone. This call was noisier, longer and higher in frequency than the previous call type, sounding like *eek*. The fundamental maximum averaged 2.1 kHz and lasted about 0.3 s.

Call type X: Food beg in anticipation of food delivery: A high frequency, high amplitude shriek given in series in regular intervals, sounding like *creeek*. The sonogram exhibited some noise but a clear fundamental frequency band was present with the maximum averaging 3.6 kHz and lasting approximately 0.5 s. Birds issued this call during flight training just prior to receiving food.

Call type XI: Food defense: The most unique Harris' Hawk sound recorded in this study. It consisted of 2 parts, with the first being a raspy and trembling, high frequency sound, resembling *kayysh*. The sonogram confirmed the noisy quality with the fundamental maximum averaging 4.3 kHz. The second component consisted of 2 short, high frequency and clear whistling sounds comparable in quality to that of songbirds and in stark contrast to all other Harris' hawk sounds identified in this study. The sonogram revealed two tonal notes with a fundamental maximum of approximately 2.7 kHz, together lasting approximately 0.3 s. Birds gave this call right after landing on the falconer's glove where they consumed a food reward while exhibiting mantling behavior.

Call gradations and combination calls: Gradations were observed in all call types and involved variations in frequency and duration, and were accompanied by graded behavioral displays. Combinations of calls were observed for call types VI+II, VI+III, VI+VIII, and VI+IX.

Of the eleven call types identified in this study call type VI exhibited the highest maximum frequency with approximately 6.0 kHz, while call type II exhibited the lowest with approximately 0.5 kHz. Overall the calls of immature hawks were higher in frequency than those given by adults, which is commonly the case in birds. Both high and low amplitude and frequency calls were common. Most calls were very noisy but a few exhibited tonal characteristics. Functions of call types determined were alarm, greeting, food beg, male pre-copulation, excitement, agitation of male after prey rejection by female, agitation during food beg, and food defense. Call gradations and combination calls seemed to relate to variations in the birds' motivational states.

The results of this study contribute to a better understanding of Harris' Hawk communication and have potential applications for captive management as well as the management of wild Harris' Hawks. The call

repertoire of captive Harris' Hawks, as determined in this study, may closely resemble that of Harris' Hawks in the wild with a captivity setting mimicking the situation in the wild due to this hawk's social nature. To allow for a detailed comparison of the call repertoire and function of captive and wild hawks further acoustical studies of both groups need to be conducted.

Patla, S. M. 1997. NESTING ECOLOGY AND HABITAT OF THE NORTHERN GOSHAWK IN UNDISTURBED AND TIMBER HARVEST AREAS ON THE TARGHEE NATIONAL FOREST, GREATER YELLOWSTONE ECOSYSTEM. M.S. Thesis, Idaho State Univ., Pocatello. 164pp.

I investigated nesting ecology and habitat of a previously unstudied population of Northern Goshawks (*Accipiter gentilis*) from 1989 to 1995 on the Targhee National Forest, located in eastern Idaho and western Wyoming. My main objectives were to describe nesting habitat at 5 hierarchical spatial scales, determine the relationship between productivity/occupancy and habitat features, and evaluate effects of timber harvesting. Habitat analysis areas included: the nest tree, nest plot (0.13 ha), nest area (NA: 81 ha), post-fledgling family area (PFA: 162 ha), and the forging area (FA: 2428 ha). Twenty seven current and 4 historical territories in Douglas-fir and lodgepole pine habitat were analyzed. I also determined habitat selection at the nest site level by comparing nest plots to random plots for 26 current territories.

Goshawk territories had a 61% occupancy rate and produced an average of 1.96 young per nest. Annual productivity was negatively correlated with precipitation, and positively with temperature in early spring. Goshawk territories contained a number of alternate nest trees that were located in areas of extensive mature forest habitat: mature forest cover averaged over 60% in the NA, PFA and FA. Few territories had less than 50% mature forest cover within the home range area. Goshawks selected nest sites on north and west aspects that had taller trees, greater basal area, greater under canopy space, and higher density of trees in the 38-46 cm diameter size class compared to random sites.

Habitat variables at different spatial scales explained less than a quarter of the variation in productivity or occupancy. Productivity was positively related to basal area at the nest site, and both productivity and occupancy were positively related to the proportion of sagebrush/shrub cover within the FA indicting its value as foraging habitat. High occupancy territories (> 50% occupancy) had significantly more mature forest cover within the NA and PFA, and less seedling and young forest cover.

At 10 territories monitored pre and post-harvest, timber harvesting significantly reduced the amount of mature forest within the home range area with greatest reduction within the NA (33%). I found no significant differences in productivity and occupancy in the pre- and post-harvest periods, although occupancy decreased from 79% to 47%. Occupancy at 15 post-harvest territories was positively related to the amount of mature forest cover within the NA. Large decreases in mature forest at three historical territories in salvage logging areas indicate the need for modification of current silvicultural practices to maintain high quality goshawk nesting habitat in timber management areas.

WINGSPAN CONTRIBUTIONS

The Raptor Research Foundation, Inc. wishes to thank the following people who contributed material to this issue of *Wingspan*: **David Andersen, Marc Bechard, Jim Bednarz, Keith Bildstein, Ann Christensen, Conference Solutions, Michal Ferro, Jim Fitzpatrick, Pat Hall, Andrew Jenkins, Mike Kochert, Bob Lehman, Heike McConnell, Susan Patla, Ricardo Rodríguez-Estrella, Karen Steenhof,** and **Reuven Yosef.**

Wingspan welcomes contributions from RRF members and others interested in raptor biology and management. Articles and announcements should be sent, faxed, or e-mailed to the editor: Leonard Young, 1640 Oriole Lane NW, Olympia, WA 98502-4342 USA (phone/fax: 360-943-7394, e-mail: wingspan@msn.com). The deadline for the next issue is February 7, 2000.

RAPTOR RESEARCH FOUNDATION
1999 ANNUAL MEETING

3-7 November, La Paz, Baja California Sur, México

The Raptor Research Foundation's 1999 annual meeting will be held on 3-7 November at the Hotel Araiza Inn, in La Paz, Baja California Sur, México, hosted by Centro de Investigaciones Biológicas del Noroeste, S.C. There will be two symposia: one on the Golden Eagle on November 2 (for more information, contact: Michael J. McGrady, 1702 Ridge Road, Whiteford, MD 21160 USA, phone: 1-410-836-1018, fax: 1-410-836-1019, e-mail: mmcgrady@msn.com), and another on Monitoring of North American Raptor Populations on November 4th (for more information, contact: Jeff Smith, HawkWatch International, 1800 South West Temple, Suite A226-1, Salt Lake City, UT 84115 USA, phone: 1-801-484-6758, fax: 1-801-484-6810, e-mail: jsmith@hawkwatch.org). A workshop on GIS and Raptor Ecology will be held on November 6 (for more information contact: Ricardo Rodríguez- Estrella, see address below). For further information about the meeting, contact: Ricardo Rodríguez-Estrella/Local Chair, Centro de Investigaciones Biológicas del Noroeste, km. 1 carr. San Juan de la Costa, La Paz 23000 Baja California Sur, México, phone: 112-536-33, fax: 112-553-43, e-mail: estrella@cibnor.mx, web: http://www.cibnor.org/org/anuncios/rrf/irrf.html or http://catsis.weber.edu/rrf/.

REMEMBER TO VOTE !

There are only a few days left to vote in the 1999 RRF election; ballots must be mailed to the RRF Secretary by September 15. There are five matters to be determined: four Director positions (all RRF members can vote for all positions) and the proposed resolution on Solving Raptor-Human Conflicts. If you are an RRF member and have not yet received a ballot, please immediately contact RRF Secretary Pat Hall by e-mail (pah@spruce.for.nau.edu) or phone (1-520-526-6222). Biographical sketches of all candidates for Director positions were mailed with the ballot and can also be found on RRF's web site (http://catsis.weber.edu/rrf/).

WINGSPAN
1640 Oriole Lane NW
Olympia, WA 98502-4342 USA

Non-profit Organ.
U.S.
POSTAGE
PAID
Olympia, WA
Permit No. 78